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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/575,910 | 05/23/2000 | Gregory P. Kochanski | Kochanski 52-16 | 2477 |

22186 7590 10/08/2003

MENDELSON AND ASSOCIATES PC
1515 MARKET STREET
SUITE 715
PHILADELPHIA, PA 19102

EXAMINER

GRIER, LAURA A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2644

DATE MAILED: 10/08/2003

2

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/575,910

Applicant(s)

KOCHANSKI ET AL.

Examiner

Laura A Grier

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,9,18,19 and 22 is/are rejected.
- 7) ☒ Claim(s) 3-8,10-17,20 and 21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-2, 9, 18-19, and 22** are rejected under 35 U.S.C. 102(e) as being anticipated by Marash et al., U. S. Patent No. 6594367.

Regarding **claims 1 and 22**, Marash et al. (herein, Marash) discloses super directional beamforming design and implementation (figures 1 and 2). Marash's disclosure comprises filters for receiving an output from N microphones (26_n), which may be omnidirectional microphones, coupled with an adder for combining the signals from the microphone, which reads on filtering the audio signal; and an implementation of creating a noise covariance matrix for noise estimation, wherein the signal inputs to the microphones may arrive at the microphones at different times and from different locations (based upon the fact that the beamforming technique disclosed can also of be the delay and summed technique), and with the use of omnidirectional microphones, noise may be pickup from various directions outside of the directed area of sound pickup and, a nonlinear concept is depicted (col. 4, lines 64-67 and col. 5, lines 1-17), which indicates providing nonlinear signal estimation.

Regarding **claim 2**, Marash discloses everything claimed as applied above (see claim 1). Marash further discloses delaying (14 and 44, respectively) and convolving (18 and 38, respectively), which indicates delaying and scaling the audio signal from the microphones.

Regarding **claim 9 and 18**, Marash discloses everything claimed as applied above (see claim 1). Marash discloses that implementation of noise covariance for each filter is processed individually for the generating filter coefficient to adequate filter its received audio signal, which reads on the adjusting the adjustments of the filter to match each processed audio signal and the input values being processed independently.

Regarding **claim 19**, Marash discloses everything claimed as applied above (see claim 1). Marash discloses that several weight of a several frequency for each signal is defined for each filtered, and is later applied in a design for a time domain filter (col. 6, lines 39-47).

Claims 3-8, 10-17 and 20-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

Art Unit: 2644

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks


Washington, D.C. 20231

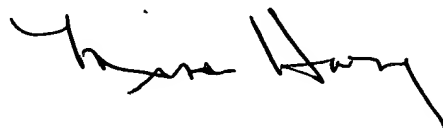
Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the receptionist whose telephone number is (703) 305-4700.

LAG 
September 26, 2003



**MINSUN OH HARVEY
PRIMARY EXAMINER**